— 09/876322 —

```
     FILE 'REGISTRY' ENTERED AT 16:53:14 ON 22 SEP 2002
L1             8 S VANADYL SULFATE/CN OR POTASSIUM FERRICYANIDE/CN OR AMMONIUM M
L2             1 S AMMONIUM IRON CITRATE/CN
L3             9 S L1 OR L2
L4            10 S NICOTINE ADENINE DINUCLEOTIDE
L5             0 S NICOTINE ADENINE DINUCLEOTIDE/CN
L6             1 S NADIDE/CN

     FILE 'CAPLUS, WPIDS, MEDLINE' ENTERED AT 17:00:42 ON 22 SEP 2002

     FILE 'REGISTRY' ENTERED AT 17:00:58 ON 22 SEP 2002
               SET SMARTSELECT ON
L7           SEL L6 1- CHEM :      20 TERMS
               SET SMARTSELECT OFF

     FILE 'CAPLUS, WPIDS, MEDLINE' ENTERED AT 17:00:59 ON 22 SEP 2002

     FILE 'REGISTRY' ENTERED AT 17:02:52 ON 22 SEP 2002
               SEL L6 CN

     FILE 'CAPLUS, WPIDS, MEDLINE' ENTERED AT 17:03:49 ON 22 SEP 2002

     FILE 'REGISTRY' ENTERED AT 17:05:16 ON 22 SEP 2002

     FILE 'CAPLUS, WPIDS' ENTERED AT 17:07:21 ON 22 SEP 2002

     FILE 'REGISTRY' ENTERED AT 17:07:34 ON 22 SEP 2002
               SET SMARTSELECT ON
L8           SEL L6 1- CHEM :      20 TERMS
               SET SMARTSELECT OFF

     FILE 'CAPLUS, WPIDS' ENTERED AT 17:07:35 ON 22 SEP 2002

     FILE 'CAPLUS' ENTERED AT 17:08:20 ON 22 SEP 2002
L9             1 S L6 (L) L3
```

no good

> d bib ab

L9 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS
AN 1973:53577 CAPLUS
DN 78:53577
TI Concentration of the nicotinamide coenzymes in the liver of rats under the effect of molybdenum
AU Ivanov, N.; Profirov, Ya. I.
CS Livest. Breed. Inst., Kostinbrod, Bulg.
SO Dokl. Bolg. Akad. Nauk (1972), 25(8), 1121-4
CODEN: DBANAD
DT Journal
LA English
AB The oral or injection administration of 10 mg ammonium molybdate [**13106-76-8**]/kg caused a decrease after 17 hr in the total concns. of NAD [**53-84-9**] and NADP [53-59-8] in the liver of adult male rats and 56-day-old chickens, and the decrease did not depend on the channels of introduction of molybdenum [7439-98-7] into the body. The effect of Mo was stronger in pure-bred White Plymouth Rock chickens than in White Plymouth Rock-Cornish crossbred chickens. The effect of toxic doses of Mo was probably due to Mo inhibition of the biosynthesis of the nicotinamide coenzymes rather than to intensification of the breakdown of the coenzymes.

```
=> d que l10
L6            1 SEA FILE=REGISTRY NADIDE/CN
L10           4 SEA FILE=CAPLUS L6 (L) TRANSITION METAL#


=> d 1-4 bib ab kwic

L10  ANSWER 1 OF 4  CAPLUS  COPYRIGHT 2002 ACS
AN   1997:150542  CAPLUS
DN   126:289852
TI   An analytical study of the redox behavior of 1,10-phenanthroline-5,6-
     dione, its transition-metal complexes, and its N-monomethylated derivative
     with regard to their efficiency as mediators of NAD(P)+ regeneration
AU   Hilt, Gerhard; Jarbawi, Tafeeda; Heineman, William R.; Steckhan, Eberhard
CS   Inst. Organische Chem. Biochem., Univ. Bonn, Bonn, D-53121, Germany
SO   Chemistry--A European Journal (1997), 3(1), 79-88
     CODEN: CEUJED; ISSN: 0947-6539
PB   VCH
DT   Journal
LA   English
AB   The synthesis as well as the chem. and electrochem. properties of
     homoleptic and heteroleptic (trispyridylmethylamine as coligand)
     transition-metal complexes (Ru and Co) of 1,10-phenanthroline-5,6-dione
     (PD) and of its N-monomethylated deriv. (PDMe+) are described.  In
     particular, their ability to abstr. hydride ions was studied.
     Electrochem. investigations with cyclic voltammetry, rotating disk
     electrode expts., and spectroelectrochem. methods at different pH values
     gave an insight into the complex electrochem. of the compds. described,
     which is strongly influenced by a hydration preequil.  The electrochem.
     active quinone form of the transition-metal complexes can be reduced to
     the hydroquinone state in acidic soln. and to their transition-metal-
     stabilized semiquinone states for neutral and basic solns., whereas PDME+
     is reduced to the hydroquinone state in both acidic and neutral solns.
     The compds. can also be reduced chem., and are efficient catalysts for the
     indirect oxidn. of the enzymic cofactor NAD(P)H.  For the indirect aerobic
     NAD(P)H oxidn., up to 900 turnovers per h can be obsd., an achievement yet
     to be reached by other catalyst systems.
IT   53-84-9, NAD+
     RL: BSU (Biological study, unclassified); FMU (Formation, unclassified);
     MFM (Metabolic formation); BIOL (Biological study); FORM (Formation,
     nonpreparative)
        (prepn. of and redox behavior of 1,10-phenanthroline-5,6-dione,
        transition-metal complexes, and N-monomethylated
        deriv. as mediators of NAD(P)+ regeneration)

L10  ANSWER 2 OF 4  CAPLUS  COPYRIGHT 2002 ACS
AN   1994:243822  CAPLUS
DN   120:243822
TI   Transition metal complexes of 1,10-phenanthroline-5,6-dione as efficient
     mediators for the regeneration of NAD+ in enzymic synthesis
AU   Hilt, Gerhard; Steckhan, Eberhard
CS   Inst. Biochem. Org. Chem., Univ. Bonn, Bonn, 53121, Germany
SO   Journal of the Chemical Society, Chemical Communications (1993), (22),
     1706-7
     CODEN: JCCCAT; ISSN: 0022-4936
DT   Journal
LA   English
AB   The complexation of 1,10-phenanthroline-5,6-dione by transition metals
     increases the catalytic turnover frequency by a factor of .ltoreq.17 for
     the aerobic-chem. and a factor of 14 for the indirect electrochem.
     NAD+-regeneration for horse-liver alc. dehydrogenase (HLADH)-catalyzed
     cyclohexanol oxidns. to cyclohexanone in comparison with the uncomplexed
     phenanthrolinediones.
```

IT **53-84-9**, NAD+
RL: RCT (Reactant); RACT (Reactant or reagent)
(aerobic and anaerobic electrochem. regeneration of, mediated by **transition metal** complexes of phenanthrolinedione in horse-liver alc. dehydrogenase-catalyzed oxidn. of cyclohexanol to cyclohexanone)

L10 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2002 ACS
AN 1990:493799 CAPLUS
DN 113:93799
TI Demetalization of alcohol dehydrogenase isolated from chick-pea and reactivation of the apoenzyme by cobalt, nickel, zinc, lead, and cadmium ions
AU Leblova, Sylva; El Ahmad, Mustafa; Zatloukalova, Sona
CS Fac. Sci., Charles Univ., Prague, 128 40, Czech.
SO Biologia (Bratislava) (1989), 44(12), 1155-60
CODEN: BLOAAO; ISSN: 0006-3088
DT Journal
LA English
AB Conditions for the removal of bound Zn in chick-pea alc. dehydrogenase (ADH) purified to electrophoretic homogeneity were tested. ADH without Zn was obtainable by equil. dialysis against a Tris-acetate buffer (pH 6.5) contg. 0.1 mol.L-1 EDTA and mercaptoethanol (20 h) and a subsequent 48-h dialysis against a Tris-acetate buffer (pH 7.0) employed to remove EDTA. Both dialysis procedures were carried out at 4.degree.. The sample of ADH obtained was completely inactive, while the ADH twice dialyzed without EDTA retained 60% of its activity. ADH without Zn could be reactivated best by using Zn and, to a lower extent, Co and Ni ions. Reactivation with Pb and Cd ions was negligible. The following conditions were optimal for reactivation of apo-ADH: pH 8.2-8.5, 1 h at 20.degree.. If ADH was preincubated with NAD in the absence of Zn and then reactivated by metals, the degree of reactivation was decreased at a concn. of NAD of 1 mmol.L-1. At higher concn. no reactivation was obsd.
IT **53-84-9**, NAD
RL: BIOL (Biological study)
(alc. dehydrogenase apoenzyme of chickpea reactivation by divalent **transition metal** response to)

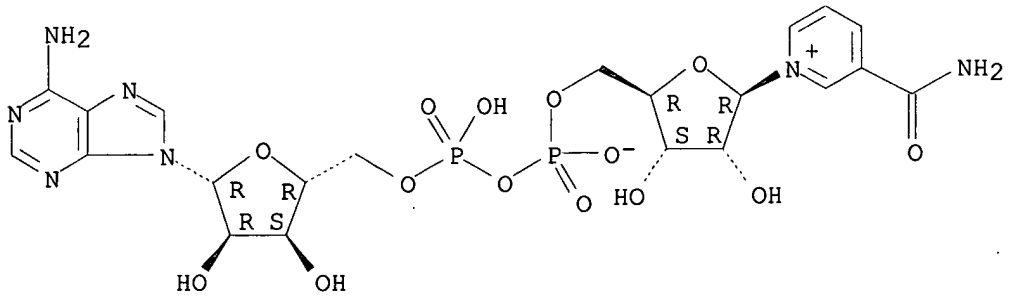
L10 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2002 ACS
AN 1979:196952 CAPLUS
DN 90:196952
TI Interaction of dinucleotides with divalent metal ions: a circular dichroism study
AU Zentz, Christian; Chottard, Genevieve; Bolard, Jacques
CS Dep. Rech. Phys., Univ. Pierre Marie Curie, Paris, Fr.
SO J. Inorg. Nucl. Chem. (1978), 40(12), 2019-23
CODEN: JINCAO; ISSN: 0022-1902
DT Journal
LA English
AB The interactions between NAD and NADP and M2+ (M = Mg, Mn, Co) were studied by UV CD and also visible CD for the Co complexes. The changes in CD with temp. showed that M2+ did not bridge the purine base and the nicotinamide. In the presence of Co2+ the N(1) atom of adenine was deprotonated in formation of a 1:2 Co2+-dinucleotide complex, the 2 adenine bases being stacked.
IT 53-59-8D, transition metal complexes **53-84-9D**, **transition metal** complexes
RL: RCT (Reactant)
(CD of)

L6 NADT

RN 53-84-9 REGISTRY
CN Adenosine 5'-(trihydrogen diphosphate), P'.fwdarw.5'-ester with 3-(aminocarbonyl)-1-.beta.-D-ribofuranosylpyridinium, inner salt (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Adenosine 5'-(trihydrogen diphosphate), P'.fwdarw.5'-ester with 3-(aminocarbonyl)-1-.beta.-D-ribofuranosylpyridinium hydroxide, inner salt
CN Pyridinium, 3-carbamoyl-1-.beta.-D-ribofuranosyl-, hydroxide, 5'.fwdarw.5'-ester with adenosine 5'-(trihydrogen pyrophosphate), inner salt (8CI)
OTHER NAMES:
CN .beta.-Diphosphopyridine nucleotide
CN .beta.-NAD
CN .beta.-NAD+
CN .beta.-Nicotinamide adenine dinucleotide
CN Adenine-nicotinamide dinucleotide
CN Codehydrase I
CN Codehydrogenase I
CN Coenzyme I
CN Cozymase I
CN Diphosphopyridine nucleotide
CN DPN
CN Enzopride
CN ~~NAD~~
CN NAD+
CN **Nadide**
CN Nicotinamide-adenine dinucleotide
CN Oxidized diphosphopyridine nucleotide
FS STEREOSEARCH
DR 30429-30-2, 159929-29-0
MF C21 H27 N7 O14 P2
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DIOGENES, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PIRA, PROMT, RTECS*, TOXCENTER, USAN, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**, WHO
(**Enter CHEMLIST File for up-to-date regulatory information)

Because of this, WPIDS & medline will not allow search with this term.

Absolute stereochemistry.



10846 REFERENCES IN FILE CA (1962 TO DATE)
443 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
10852 REFERENCES IN FILE CAPLUS (1962 TO DATE)
129 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

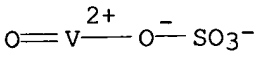
L3
Some of the Transition metal compounds

L3 ANSWER 1 OF 9 REGISTRY COPYRIGHT 2002 ACS
RN 51312-42-6 REGISTRY
CN Sodium tungsten hydroxide oxide phosphate (9CI) (CA INDEX NAME)
OTHER NAMES:
CN **Sodium phosphotungstate**
CN Sodium tungstophosphate
CN Tungstophosphoric acid, sodium salt
MF H O . Na . O4 P . O . W
CI TIS
LC STN Files: AGRICOLA, BIOSIS, CA, CAPLUS, CASREACT, CEN, CHEMCATS, CHEMLIST, CSCHEM, EMBASE, IFICDB, IFIPAT, IFIUDB, MRCK*, NIOSHTIC, RTECS*, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

Component	Ratio	Component Registry Number
O	x	17778-80-2
HO	x	14280-30-9
O4P	x	14265-44-2
W	x	7440-33-7
Na	x	7440-23-5

92 REFERENCES IN FILE CA (1962 TO DATE)
3 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
92 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L3 ANSWER 2 OF 9 REGISTRY COPYRIGHT 2002 ACS
RN 27774-13-6 REGISTRY
CN Vanadium, oxo[sulfato(2-)-.kappa.O]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Vanadium, oxosulfato- (8CI)
CN Vanadium, oxo[sulfato(2-)-O]-
CN Vanadyl sulfate (VO(SO4)) (6CI)
OTHER NAMES:
CN C.I. 77940
CN Oxo(sulfato)vanadium
CN Oxovanadium(IV) sulfate
CN Vanadium oxide sulfate (VO(SO4))
CN Vanadium oxosulfate
CN Vanadium oxysulfate (VOSO4)
CN Vanadium sulfate (VO(SO4))
CN Vanadyl monosulfate
CN **Vanadyl sulfate**
DR 12036-78-1, 13767-17-4, 13864-22-7, 1344-64-5, 102500-64-1, 102500-65-2, 102500-66-3, 102500-67-4, 102500-68-5, 102500-69-6, 102500-70-9, 102500-71-0, 102512-68-5, 102512-69-6, 102512-70-9, 102512-71-0, 102512-72-1, 3547-25-9, 410546-95-1
MF O5 S V
CI CCS, COM
LC STN Files: ADISNEWS, AQUIRE, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CSCHEM, CSNB, DDFU, DETHERM*, DRUGU, EMBASE, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, RTECS*, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



1098 REFERENCES IN FILE CA (1962 TO DATE)
14 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1099 REFERENCES IN FILE CAPLUS (1962 TO DATE)
19 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 3 OF 9 REGISTRY COPYRIGHT 2002 ACS
RN 13746-66-2 REGISTRY
CN Ferrate(3-), hexakis(cyano-.kappa.C)-, tripotassium, (OC-6-11)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Ferrate(3-), hexacyano-, tripotassium (8CI)
CN Ferrate(3-), hexakis(cyano-C)-, tripotassium, (OC-6-11)-
OTHER NAMES:
CN Iron potassium cyanide (FeK3(CN)6)
CN Potassium cyanoferrate (K3Fe(CN)6)
CN Potassium ferricyanate
CN **Potassium ferricyanide**
CN Potassium ferricyanide (K3Fe(CN)6)
CN Potassium hexacyanoferrate(3-)
CN Potassium hexacyanoferrate(III)
CN Potassium iron cyanide (K3Fe(CN)6)
CN Red prussiate
CN Tripotassium ferric hexacyanide
CN Tripotassium ferricyanide
CN Tripotassium hexacyanoferrate
CN Tripotassium hexacyanoferrate(3-)
CN Tripotassium iron hexacyanide
DR 409-16-5, 2002-18-8
MF C6 Fe N6 . 3 K
CI CCS, COM
LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DRUGU, EMBASE, GMELIN*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, USPAT2, USPATFULL, VTB
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Other Sources: DSL**, EINECS**, TSCA**
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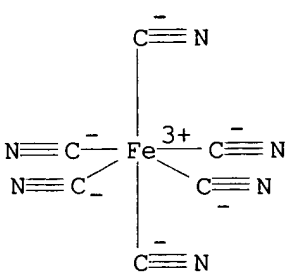
CRN (13408-62-3)



3 K^+

4645 REFERENCES IN FILE CA (1962 TO DATE)
51 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

4653 REFERENCES IN FILE CAPLUS (1962 TO DATE)
3 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 4 OF 9 REGISTRY COPYRIGHT 2002 ACS
RN 13106-76-8 REGISTRY
CN Molybdate (MoO42-), diammonium, (T-4)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Molybdic acid (H2MoO4), diammonium salt (8CI)
OTHER NAMES:
CN **Ammonium molybdate**
CN Ammonium molybdate [(NH4)2MoO4]
CN Diammonium molybdate
CN Diammonium molybdate ((NH4)2MoO4)
CN Diammonium tetraoxomolybdate(2-)
CN Molybdic acid diammonium salt
DR 140899-16-7
MF H4 N . 1/2 Mo O4
CI CCS, COM
LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DETHERM*, EMBASE, HSDB*, IFICDB, IFIPAT, IFIUDB, MSDS-OHS, NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, USPATFULL
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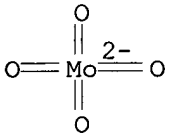
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)
CRN (14259-85-9)



2 NH_4^+

857 REFERENCES IN FILE CA (1962 TO DATE)
17 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
858 REFERENCES IN FILE CAPLUS (1962 TO DATE)
12 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 5 OF 9 REGISTRY COPYRIGHT 2002 ACS
RN 12680-49-8 REGISTRY
CN Molybdenum sodium oxide (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Molybdic acid, sodium salt
OTHER NAMES:
CN **Sodium molybdate**
CN Sodium molybdenum oxide
CN Sodium orthomolybdate
DR 58968-03-9, 64093-84-1, 37297-00-0, 153456-57-6
MF Mo . Na . O
CI COM, TIS
LC STN Files: AGRICOLA, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CIN, DIOGENES, EMBASE, IFICDB, IFIPAT, IFIUDB, NIOSHTIC, PIRA, PROMT, TOXCENTER, TULSA, USPATFULL

Other Sources: DSL**
(**Enter CHEMLIST File for up-to-date regulatory information)

Component	Ratio	Component Registry Number
O	x	17778-80-2
Na	x	7440-23-5
Mo	x	7439-98-7

555 REFERENCES IN FILE CA (1962 TO DATE)
24 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
555 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L3 ANSWER 6 OF 9 REGISTRY COPYRIGHT 2002 ACS
RN 12027-67-7 REGISTRY
CN Molybdate (Mo7O246-), hexaammonium (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Ammonium molybdate(VI) ((NH4)6Mo7O24) (6CI)
CN Molybdic acid (H6Mo7O24), hexaammonium salt (8CI)
OTHER NAMES:
CN Ammonium heptamolybdate
CN Ammonium heptamolybdate ((NH4)6Mo7O24)
CN **Ammonium molybdate**
CN Ammonium molybdate ((NH4)6(Mo7O24))
CN Ammonium molybdate ((NH4)6Mo7O24)
CN Ammonium paramolybdate
CN Ammonium paramolybdate ((NH4)6Mo7O24)
CN Hexaammonium heptamolybdate
CN Hexaammonium tetracosaoxoheptamolybdate
CN Hexaammonium tetracosaoxoheptamolybdate(6-)
CN PM 20
DR 12501-45-0
MF H4 N . 1/6 Mo7 O24
CI CCS, COM
LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, EMBASE, HSDB*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, USPAT2, USPATFULL, VTB
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Other Sources: DSL**, EINECS**, TSCA**
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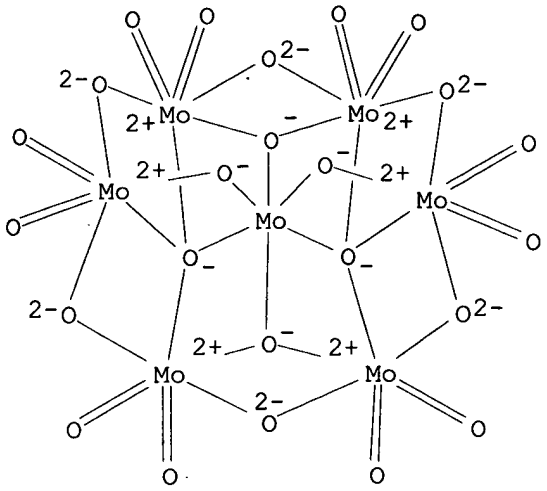
CRN (12274-10-1)



●6 NH_4^+

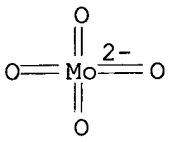
1951 REFERENCES IN FILE CA (1962 TO DATE)
55 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1952 REFERENCES IN FILE CAPLUS (1962 TO DATE)
20 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 7 OF 9 REGISTRY COPYRIGHT 2002 ACS
RN 11098-84-3 REGISTRY
CN Ammonium molybdenum oxide (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Molybdic acid, ammonium salt
OTHER NAMES:
CN **Ammonium molybdate**
DR 12673-54-0, 11119-83-8, 11128-97-5
MF Unspecified
CI COM, MAN
LC STN Files: AGRICOLA, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAPLUS, CASREACT, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS, NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, USPAT2, USPATFULL, VTB
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
1569 REFERENCES IN FILE CA (1962 TO DATE)
52 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1573 REFERENCES IN FILE CAPLUS (1962 TO DATE)

L3 ANSWER 8 OF 9 REGISTRY COPYRIGHT 2002 ACS
RN 7631-95-0 REGISTRY
CN Molybdate (MoO42-), disodium, (T-4)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Molybdic acid (H2MoO4), disodium salt (8CI)
OTHER NAMES:
CN Disodium molybdate
CN Disodium molybdate (Na2MoO4)
CN Disodium tetraoxomolybdate
CN Disodium tetraoxomolybdate(2-)

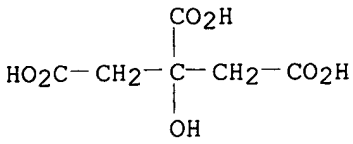
CN Molybdenum sodium oxide (MoNa2O4)
CN Molybdenum sodium oxide (Na2MoO4)
CN **Sodium molybdate**
CN Sodium molybdate (Na2MoO4)
CN Sodium molybdenate (Na2MoO4)
CN Sodium molybdenum oxide (Na2MoO4)
CN Sodium tetraoxomolybdate(2-)
DR 14666-91-2, 106463-33-6
MF Mo O4 . 2 Na
CI CCS, COM
LC STN Files: AGRICOLA, AQUIRE, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CIN, CSCHEM, DETHERM*, DIOGENES, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)
CRN (14259-85-9)



●2 Na^+

2910 REFERENCES IN FILE CA (1962 TO DATE)
67 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2915 REFERENCES IN FILE CAPLUS (1962 TO DATE)
14 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L3 ANSWER 9 OF 9 REGISTRY COPYRIGHT 2002 ACS
RN 7050-19-3 REGISTRY
CN 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, ammonium iron salt (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Ammonium iron citrate (6CI, 7CI)**
CN Citric acid, ammonium iron salt (8CI)
OTHER NAMES:
CN Ammoniacal iron citrate
CN Iron ammonium citrate
DR 10168-99-7
MF C6 H8 O7 . x Fe . x H3 N
LC STN Files: BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS, CHEMLIST, GMELIN*, MEDLINE, TOXCENTER, USPATFULL
(*File contains numerically searchable property data)
Other Sources: EINECS**, NDSL**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)
CRN (77-92-9)



● x Fe(x)

● x NH_3

93 REFERENCES IN FILE CA (1962 TO DATE)
2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
93 REFERENCES IN FILE CAPLUS (1962 TO DATE)
5 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

NADH + mtzO

AN 2002-205946 [26] WPIDS
DNC C2002-063093
TI New composition useful for improving body compositional property of e.g. human, comprises a mixture of **dietary supplement** and a fatty acid source containing conjugated linoleic acid and/or modified tall oil.
DC B05 C03 D13
IN GOODBAND, R D; KOO, S I; NELSSEN, J L; O'QUINN, P; OWEN, K Q; TOKACH, M D
PA (UNIV) UNIV KANSAS STATE RES FOUND
CYC 94
PI WO 2002002106 A1 20020110 (200226)* EN 34p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
AU 2001071831 A 20020114 (200237)
ADT WO 2002002106 A1 WO 2001-US21242 20010629; AU 2001071831 A AU 2001-71831 20010629
FDT AU 2001071831 A Based on WO 200202106
PRAI US 2000-608817 20000630
TI New composition useful for improving body compositional property of e.g. human, comprises a mixture of **dietary supplement** and a fatty acid source containing conjugated linoleic acid and/or modified tall oil.
AB WO 200202106 A UPAB: 20020424
NOVELTY - A composition (I) comprises a mixture of **dietary supplement** (a) and a fatty acid source (b) containing conjugated linoleic acid (CLA) and/or modified tall oil (MTO).

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a combination of a **food** or beverage for a human or animal and a composition (I) (at least 0.01 wt.%) based on the total weight of the **food** or beverage taken as 100 wt.%.

ACTIVITY - Anorectic.

MECHANISM OF ACTION - None given.

USE - The composition is used for improving a body compositional property of a human or animal; as a feed for post-menopausal women and animals selected from rats, swine, cattle, poultry, horses, dogs, cats or fish (all claimed). The composition helps to reduce the body weight of animals/humans.

ADVANTAGE - The composition is safe and effective in treatments which reduce body weight gain by at least about 1%, body fat by at least about 1%, increases the total body lean mass by at least about 0.5% and an ash content of at least about 1% in human or animal. The composition reduces the risk of osteoporosis and adiposity. The modified tall oil (MTO) alters the metabolism of alpha tocopherol in a manner that concentrates it in the adipose tissues. MTO reduces serum cholesterol and phospholipid levels and beneficially alters the body and serum and tissue compositions in ovariectomized rats, commonly used as a model for post-menopausal women.
Dwg.0/1
TECH UPTX: 20020424
TECHNOLOGY FOCUS - **FOOD** - Preferred Components: (a) is an agent for altering the metabolism of a human or animal and a component selected from fat, water, mineral and/or protein. (a) is selected from sources of carnitine, **chromium**, creatine, monohydrate, androstenedione, anabolic agent, co-enzyme Q10, TCA intermediate, lipoic acid, betaine, beta-agonist, somatatropin, heavy metal, botanical herb, adenosine triphosphate (ATP), nicotinamide adenine dinucleotide (**NADH**) and/or hydroxymethyl butyrate.
Preferred Result: The composition helps to reduce the weight of animals/humans by at least 1%. The composition alters the metabolism of fat, water, minerals and/or protein.

Preferred Combination: The combination comprises a **food** presenting an outer surface with (I) coated on its surface of the **food**. (I) is mixed with **food** or beverage.

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Composition: The composition comprises (wt.%): MTO (0.01 -99), (a) (25 parts per billion (ppb) - 99 wt.%), and CLA (0.01-99).

All circled L#s were reviewed online.

FILES
Caplus
WPIDS
Medline

L1	138603	SEA NAD OR NAD# OR NADIDE OR ADENINE NICOTINAMIDE DINUCLEOTIDE OR DIPHOSPHOPYRIDINE NUCLEOTIDE
L2	142406	SEA L1 OR ADENINE NICOTINAMIDE DINUCLEOTIDE OR CODEHYDRASE I OR CODEHYDROGENASE I OR ENZOPRIDE OR NICOTINAMIDE ADENINE DINUCLEOTIDE
L3	34927	SEA (ALCOHOL? OR ETHANOL) (10A) (REMOV? OR OXIDIZ? OR CLEAR? OR METABOLIZ? OR DETOXIF? OR EXCESSIVE OR ABUS?)
L4	140	SEA L2 (50A) L3
L5	117	DUP REM L4 (23 DUPLICATES REMOVED)
L6	1621696	SEA MOLYB? OR TUNGST? OR PHOSPHOTUNGST? OR MANGANES? OR ZIRCON? OR NIOBIUM OR TANTALUM OR COBALT OR CHROMIUM
L7	0	SEA L5 (75A) L6

L1	138603	SEA NAD OR NAD# OR NADIDE OR ADENINE NICOTINAMIDE DINUCLEOTIDE OR DIPHOSPHOPYRIDINE NUCLEOTIDE
L2	142406	SEA L1 OR ADENINE NICOTINAMIDE DINUCLEOTIDE OR CODEHYDRASE I OR CODEHYDROGENASE I OR ENZOPRIDE OR NICOTINAMIDE ADENINE DINUCLEOTIDE
L3	34927	SEA (ALCOHOL? OR ETHANOL) (10A) (REMOV? OR OXIDIZ? OR CLEAR? OR METABOLIZ? OR DETOXIF? OR EXCESSIVE OR ABUS?)
L4	140	SEA L2 (50A) L3
L5	117	DUP REM L4 (23 DUPLICATES REMOVED)
L6	1621696	SEA MOLYB? OR TUNGST? OR PHOSPHOTUNGST? OR MANGANES? OR ZIRCON? OR NIOBIUM OR TANTALUM OR COBALT OR CHROMIUM
L8	1	SEA L5 (L) (L6 OR TRANSITION METAL?)

L8 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS
AN 2003:340047 CAPLUS
TI Highly stable amperometric biosensor for ethanol based on Meldola's blue adsorbed on silica gel modified with niobium oxide
AU Santos, Antonio S.; Freire, Renato S.; Kubota, Lauro T.
CS Instituto de Quimica, Universidade Estadual de Campinas -UNICAMP, CP 6154, SP, Campinas, CEP 13083-970, Brazil
SO Journal of Electroanalytical Chemistry (2003), 547(2), 135-142
CODEN: JECHES
PB Elsevier Science B.V.
DT Journal
LA English
AB A reagentless amperometric biosensor sensitive to ethanol was developed. This sensor comprises a carbon paste electrode modified with alc. dehydrogenase (ADH), NAD (NAD+) cofactor and Meldola's blue (MB) adsorbed on silica gel coated with **niobium** oxide. The amperometric response was based on the electrocatalytic properties of MB to **oxidize NADH**, which was generated in the enzymic reaction of **ethanol** with **NAD**+ under catalysis of ADH. The dependence on the biosensor response was investigated in terms of pH, supporting electrolyte, ionic strength, ADH and NAD+ amts. and working potential. The biosensor showed an excellent operational stability (95% of the activity was maintained after 300 detns.) and storage stability (allowing measurements for over than 3 mo, when stored in a refrigerator). The proposed biosensor also presented good sensitivity allowing ethanol quantification at levels down to 8.0.times.10-6 mol l-1. Moreover, the biosensor showed a wide linear response range (from 0.1 to 10 mmol l-1 for ethanol). These favorable characteristics allowed its application for direct measurements of ethanol in a great variety of alc. beverages, including beer, wine and spirits. The precision and recovery data shown by the proposed biosensor may give reliable results for real complex matrixes.

L1	138603	SEA NAD OR NAD# OR NADIDE OR ADENINE NICOTINAMIDE DINUCLEOTIDE OR DIPHOSPHOPYRIDINE NUCLEOTIDE
L6	1621696	SEA MOLYB? OR TUNGST? OR PHOSPHOTUNGST? OR MANGANES? OR ZIRCON? OR NIOBIUM OR TANTALUM OR COBALT OR CHROMIUM
L9	290	SEA L1 (50A) (DETOXIF? OR INTOXIC? OR HANGOVER#)
L10	0	SEA L9 (L) (L6 OR TRANSITION METAL#)

L1	138603	SEA NAD OR NAD# OR NADIDE OR ADENINE NICOTINAMIDE DINUCLEOTIDE OR DIPHOSPHOPYRIDINE NUCLEOTIDE
L2	142406	SEA L1 OR ADENINE NICOTINAMIDE DINUCLEOTIDE OR CODEHYDRASE I OR CODEHYDROGENASE I OR ENZOPRIDE OR NICOTINAMIDE ADENINE DINUCLEOTIDE
L3	34927	SEA (ALCOHOL? OR ETHANOL) (10A) (REMOV? OR OXIDIZ? OR CLEAR? OR METABOLIZ? OR DETOXIF? OR EXCESSIVE OR ABUS?)
L4	140	SEA L2 (50A) L3
L5	117	DUP REM L4 (23 DUPLICATES REMOVED)
L9	290	SEA L1 (50A) (DETOXIF? OR INTOXIC? OR HANGOVER#)
L11	402	SEA L9 OR L5
L12	316	DUP REM L11 (86 DUPLICATES REMOVED)
L13	314	SEA L12 AND (ALCOHOL OR ETHANOL OR LIQUOR OR INTOXIC? OR DRUNK OR DETOX? OR HANGVOER#)

L1	138603	SEA NAD OR NAD# OR NADIDE OR ADENINE NICOTINAMIDE DINUCLEOTIDE OR DIPHOSPHOPYRIDINE NUCLEOTIDE
L6	1621696	SEA MOLYB? OR TUNGST? OR PHOSPHOTUNGST? OR MANGANES? OR ZIRCON? OR NIOBIUM OR TANTALUM OR COBALT OR CHROMIUM
L14	2004	SEA L1 (50A) (L6 OR IRON OR FERRIC OR FERROUS OR COPPER OR CUPRIC OR CUPROUS OR TINATIUM OR NICKEL OR PALLADIUM OR TRANSITION METAL#)
L15	319	SEA L14 AND (THERAP? OR DRUG# OR PHARMACEUTICAL? OR NUTRITION? OR FOOD# OR SUPPLEMENT? OR REGIMEN OR ADMINISTER? OR INJECT? OR PILL# OR CAPSUL? OR DIETARY)
L16	276	DUP REM L15 (43 DUPLICATES REMOVED)
L17	29	SEA (L14 (100A) (THERAP? OR DRUG# OR PHARMACEUTICAL? OR NUTRITION? OR FOOD# OR SUPPLEMENT? OR REGIMEN OR ADMINISTER? OR INJECT? OR PILL# OR CAPSUL? OR DIETARY)) AND L16

NADH

AN 2001-536391 [59] WPIDS
DNC C2001-159651
TI Composition comprising ubiquinol and a reducing agent as a stabilizer, useful for the treatment or prevention of e.g. stroke, blood pressure, mitochondrial cytopathy.
DC A96 B05
IN CHOPRA, R K
PA (CHOP-I) CHOPRA R K
CYC 95
PI WO 2001052822 A1 20010726 (200159)* EN 50p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2001029679 A 20010731 (200171)
EP 1251834 A1 20021030 (200279) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR
ADT WO 2001052822 A1 WO 2001-US1997 20010118; AU 2001029679 A AU 2001-29679 20010118; EP 1251834 A1 EP 2001-942547 20010118, WO 2001-US1997 20010118
FDT AU 2001029679 A Based on WO 200152822; EP 1251834 A1 Based on WO 200152822
PRAI US 2000-637559 20000811; US 2000-488332 20000120
AB WO 200152822 A UPAB: 20011012
NOVELTY - Composition comprises ubiquinol (I) and a reducing agent to reduce or eliminate the oxidation of the ubiquinol to ubiquinone. The composition further comprises a surfactant or vegetable oil and/or mixtures and optionally comprises a solvent to solubilize the ubiquinol and the reducing agent.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for:

(1) the composition in oral dosage form being formulated into a gelatin **capsule** or tablet;

(2) a method of preparing a composition in **pharmaceutical** dosage form;

(3) a method for increasing bioavailability of ubiquinone from an orally or topically **administered** composition; and

(4) a method of preparing a storage stable composition in oral dosage form comprising (I) comprises preparing a mixture of (I) in combination with a reducing agent effective to reduce or prevent the oxidation (I) to ubiquinone during the storage of the composition and a solubilizer, and adding the mixture to a hard or soft gelatin **capsule** to additives, carriers or excipients.

ACTIVITY - Cardiant; Hypotensive; Cytoprotectant; Neuroprotective; Cerebroprotective; Ophthalmological; Antilipemic; Immunostimulant; Vasotropic; Nootropic; Antiparkinsonian.

MECHANISM OF ACTION - Antioxidant; Coenzyme.

USE - (I) is used for the manufacture of a medicament for the treatment or prevention of congestive heart failure, high blood pressure, mitochondrial cytopathy (e.g. mitochondrial encephalopathy, Kearns-Sayre disease, Alpers disease, mitochondrial encephalopathy with lactic acidosis and stroke-like episodes, and Levers hereditary optical neuropathy), anoxia, lactic acidosis, stroke like symptoms, neurodegenerative diseases, periodontal disease, elevated cholesterol or triglycerides, weakened immune system, heart attack (all claimed), ischemia/reperfusion injury, Alzheimer's disease, dementia and Parkinson's disease.

ADVANTAGE - The composition is storage stable and further comprises a reducing agent to reduce or prevent the oxidation of ubiquinol to ubiquinone (claimed). Improves the bioavailability of Coenzyme Q preparations by providing stabilized formulations.

Dwg.0/0

TECH UPTX: 20011012

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Composition: The reducing agent is selected from glutathione, L-cysteine, N-acetyl cysteine, reduced alpha-lipoic acid, tocotrienols, tocopherols, vitamin E, vitamin E esters, vitamin C, vitamin C esters, vitamin A (retinol, retinoic acid), vitamin A esters, alpha carotene, beta carotene, lutein, zeaxanthin, astaxanthin, lycopene, flavonoids, L-carnitine, acetyl L-carnitine, propionyl L-carnitine, magnesium, zinc, selenium, **manganese**, riboflavin, niacinamide, curcuminoids, proanthocyanidins, **NADH**, NADPH, resveratrol, bilberry extract, milk thistle extract, retinol, retinoic acid, retinoic acid ester retinal and/or omega-3-fatty acids. The surfactant is selected from a complex ester, or ester-ether surfactants of formula (i) prepared from hexahydric alcohols, alkylene oxides and fatty acids, polysorbate surfactants of formula (ii) and/or mixtures. The vegetable oil comprises medium chain triglycerides selected from soybean oil, sunflower oil, safflower oil, cottonseed oil, castor oil, rapeseed oil, coconut oil and or palm oil. The composition further comprises alpha lipoic acid or a HMG CoA reductase inhibitor **drug** selected from lovastatin, pravastatin, fluvastatin, simvastatin, mevastatin, fluindostatin. The solvent is ethanol or a polyhydric alcohol selected fr

Get this

102 for NADH + Transition metal

AN 1989:44930 CAPLUS
DN 110:44930
TI Protein compositions substantially free from infectious agents
IN Lembach, Kenneth J.
PA Miles Laboratories, Inc., USA
SO U.S., 12 pp. Cont.-in-part of U.S. 4,534,972.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4720385	A	19880119	US 1985-736197	19850520
	US 4534972	A	19850813	US 1983-480056	19830329
	AU 8425605	A1	19841004	AU 1984-25605	19840314
	AU 557006	B2	19861127		
	ES 530805	A1	19850616	ES 1984-530805	19840321
	JP 59193830	A2	19841102	JP 1984-58522	19840328
	JP 05037126	B4	19930602		
	CA 1223203	A1	19870623	CA 1984-450684	19840328
PRAI	US 1983-480056		19830329		
	CA 1986-450684		19860609		

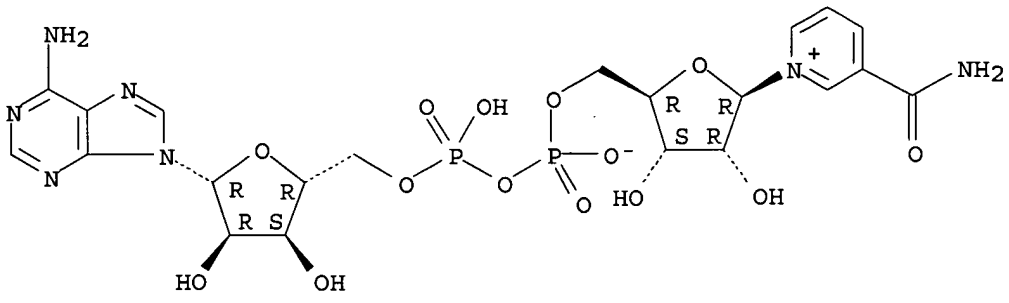
AB Compns. contg. **therapeutically** or immunol. active proteins such as blood products and vaccines are freed from infectious agents (e.g. viable viruses and bacteria) without substantial loss of **therapeutic** or immunol. activity by mixing the protein compn. with a complex formed from **transition metal** ions (e.g. Cu ions), a ligand (e.g. phenathroline), and a reducing agent (e.g. a thiol, ascorbic acid or its salts, **NADH**, NADPH, or their mixts.). Factor VIII conc. was inoculated with high-titer vesicular stomatitis virus and treated with copper-phenathroline complex (Cu, 0.01 mM; 1,10-phenanthroline, 0.5 mM), cysteine 2 mM, and ascorbic acid 1 mM; after 30 min incubation, the residual virus titer was <102. There was no significant loss of Factor VIII activity.

Note → NADH ≠ NAD

AN 1992:403158 CAPLUS
DN 117:3158
TI Chemically induced modification of cofactor specificity of glucose-6-phosphate dehydrogenase
AU Crans, Debbie C.; Simone, Carmen M.; Blanchard, John S.
CS Dep. Chem., Colorado State Univ., Fort Collins, CO, 80523, USA
SO Journal of the American Chemical Society (1992), 114(12), 4926-8
CODEN: JACSAT; ISSN: 0002-7863
DT Journal
LA English
AB **Vanadate** ester formation was used to change the cofactor specificity of glucose 6-phosphate dehydrogenase from NADP to **NAD** (+ **vanadate**). The 2'-NADP analog, 2'-NADV, formed by mixing **NAD** and **vanadate** in aq. solns., was a good cofactor analog for glucose 6-phosphate dehydrogenase. The Km for 2'-NADV (0.003 mM) was less than the Km for 2'-NADP (0.025 mM); however, the Vmax for 2'-NADV was less than the Vmax for 2'-NADP by a factor of 5000. The 2'-NADP **vanadate** analog should be a convenient probe in both biol. and spectroscopic studies of cofactor sites in 2'-NADP dependent enzymes. The activity of 2'-NADV as a cofactor demonstrates that simple chem. reactions can induce changes in cofactor specificity of enzymes and provide an attractive alternative to site-directed mutagenesis.

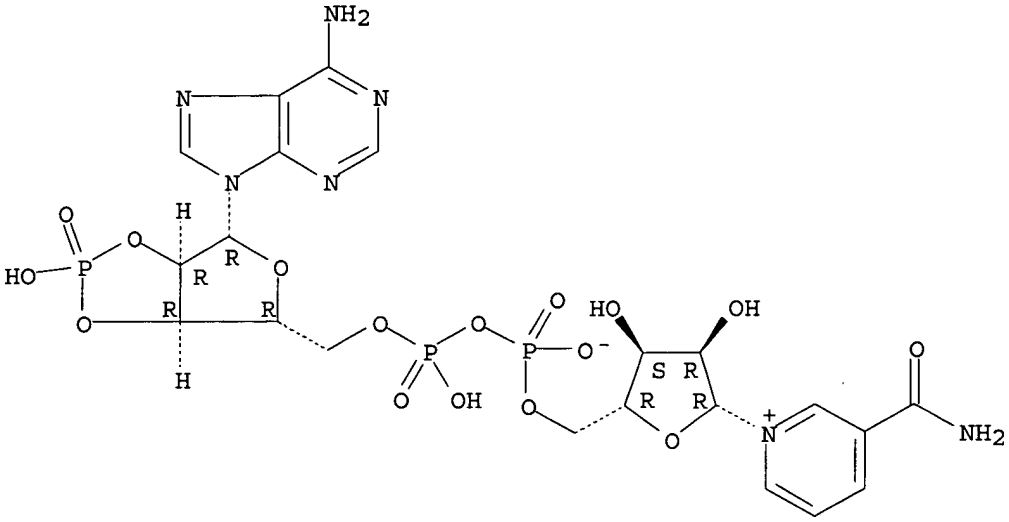
RN **53-84-9** REGISTRY
CN Adenosine 5'-(trihydrogen diphosphate), P'.fwdarw.5'-ester with 3-(aminocarbonyl)-1-.beta.-D-ribofuranosylpyridinium, inner salt (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Adenosine 5'-(trihydrogen diphosphate), P'.fwdarw.5'-ester with 3-(aminocarbonyl)-1-.beta.-D-ribofuranosylpyridinium hydroxide, inner salt
CN Pyridinium, 3-carbamoyl-1-.beta.-D-ribofuranosyl-, hydroxide, 5'.fwdarw.5'-ester with adenosine 5'-(trihydrogen pyrophosphate), inner salt (8CI)
OTHER NAMES:
CN .beta.-Diphosphopyridine nucleotide
CN .beta.-NAD
CN .beta.-NAD+
CN .beta.-Nicotinamide adenine dinucleotide
CN Adenine-nicotinamide dinucleotide
CN Codehydrase I
CN Codehydrogenase I
CN Coenzyme I
CN Cozymase I
CN Diphosphopyridine nucleotide
CN DPN
CN Enzopride
CN NAD
CN NAD+
CN Nadide
CN Nicotinamide-adenine dinucleotide
CN Oxidized diphosphopyridine nucleotide
FS STEREOSEARCH
DR 30429-30-2, 159929-29-0
MF C21 H27 N7 O14 P2
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DIOGENES, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PIRA, PROMT, RTECS*, TOXCENTER, USAN, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**, WHO
(**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



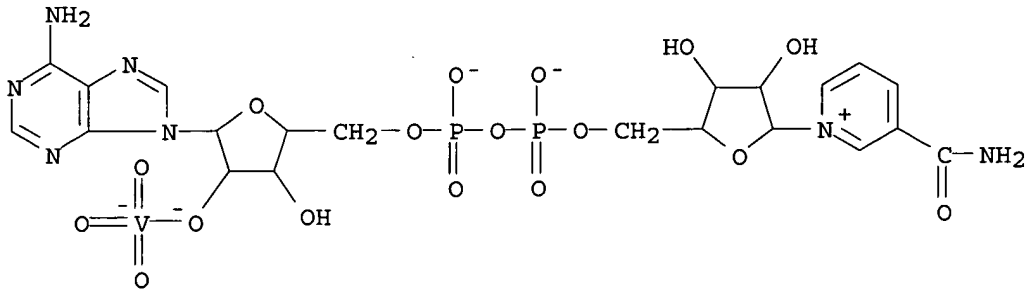
RN **62640-02-2** REGISTRY
CN Adenosine 5'-(trihydrogen diphosphate), cyclic 2',3'-(hydrogen phosphate), P'.fwdarw.5'-ester with 3-(aminocarbonyl)-1-.beta.-D-ribofuranosylpyridinium inner salt (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Furo[3,4-d]-1,3,2-dioxaphosphole, adenosine 5'-(trihydrogen diphosphate) deriv.
FS STEREOSEARCH
MF C21 H26 N7 O16 P3
CI COM
LC STN Files: CA, CAPLUS, CASREACT, MEDLINE, TOXCENTER

Absolute stereochemistry.



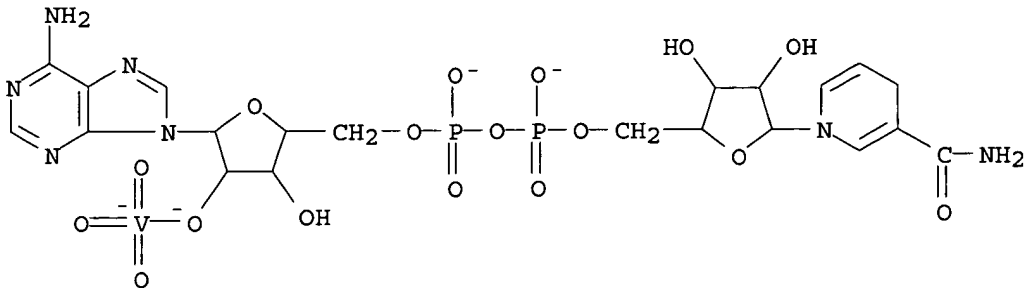
18 REFERENCES IN FILE CA (1962 TO DATE)
18 REFERENCES IN FILE CAPLUS (1962 TO DATE)

RN **141666-93-5** REGISTRY
CN Vanadate(3-), [adenosine 5'-(diphosphato) P'.fwdarw.5'-ester with 3-(aminocarbonyl)-1-.beta.-D-ribofuranosylpyridiniumato(3-)]trioxo-, (T-4)- (9CI) (CA INDEX NAME)
MF C21 H25 N7 O17 P2 V
CI CCS
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER



2 REFERENCES IN FILE CA (1962 TO DATE)
2 REFERENCES IN FILE CAPLUS (1962 TO DATE)

RN **141684-02-8** REGISTRY
CN Vanadate(4-), [adenosine 5'-(trihydrogen diphosphate) P'.fwdarw.5'-ester with 1,4-dihydro-1-.beta.-D-ribofuranosyl-3-pyridinecarboxamidato(3-)-O2']trioxo-, (T-4)- (9CI) (CA INDEX NAME)
MF C21 H26 N7 O17 P2 V
CI CCS
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER



1 REFERENCES IN FILE CA (1962 TO DATE)
1 REFERENCES IN FILE CAPLUS (1962 TO DATE)

AN 1993:186573 CAPLUS
DN 118:186573
TI NADV: a new cofactor for alcohol dehydrogenase from Thermoanaerobium brockii
AU Crans, Debbie C.; Marshman, Robert W.; Nielsen, Rikke; Felty, Irena
CS Dep. Chem., Colorado State Univ., Fort Collins, CO, 80523, USA
SO Journal of Organic Chemistry (1993), 58(8), 2244-52
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English
AB Cofactor recognition and conversion are important when conducting reactions using alc. dehydrogenases in enzyme-catalyzed synthesis. Here alc. dehydrogenase from T. brockii is reported to accept a soln. of **NAD** and **vanadate** (presumably 2'-NADV) as a cofactor with a better kcat/Km ratio than NADP. A combination of 51V NMR spectroscopy and enzyme kinetics were used to det. the Michaelis Menten parameters for this cofactor. Comparisons with previous studies suggest that alc. dehydrogenases of T. brockii may be prone to cofactor substitution.

AN 1993:186573 CAPLUS
DN 118:186573
TI NADV: a new cofactor for alcohol dehydrogenase from Thermoanaerobium brockii
AU Crans, Debbie C.; Marshman, Robert W.; Nielsen, Rikke; Felty, Irena
CS Dep. Chem., Colorado State Univ., Fort Collins, CO, 80523, USA
SO Journal of Organic Chemistry (1993), 58(8), 2244-52
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English
AB Cofactor recognition and conversion are important when conducting reactions using alc. dehydrogenases in enzyme-catalyzed synthesis. Here alc. dehydrogenase from T. brockii is reported to accept a soln. of **NAD** and **vanadate** (presumably 2'-NADV) as a cofactor with a better kcat/Km ratio than NADP. A combination of 51V NMR spectroscopy and enzyme kinetics were used to det. the Michaelis Menten parameters for this cofactor. Comparisons with previous studies suggest that alc. dehydrogenases of T. brockii may be prone to cofactor substitution.